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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/530,981
Filing Date	April 11, 2005
First Named Inventor	Masahiro Hamada
Art Unit	Not yet assigned
Examiner Name	Not yet assigned
Attorney Docket Number	576P072

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☑ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):
  -Form PTO-1449
  -Copy of non US references cited - 7
  -Copy of the International Search Report dated 1/20/04.

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Nields & Lemack		
Signature			
Printed name	Kevin S. Lemack		
Date	July 14, 2005	Reg. No.	32,579

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Kevin S. Lemack	Date	July 14, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	Masahiro Hamada et al.
Serial No.	:	10/530,981
Filed	:	April 11, 2005
For	:	PROCESS FOR THE PRODUCTION OF SULFOALKYL-CONTAINING POLYMERS
Examiner	:	Not yet assigned
Art Unit	:	Not yet assigned
Confirmation No	:	Not yet assigned
Attorney Docket No.	:	576P072

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Sir:

INFORMATION DISCLOSURE STATEMENT

The Examiner is respectfully requested to consider the enclosed documents, which are listed on the attached form PTO 1449.

The relevance of some of the references cited are shown in the International Search Report filed herein on April 11, 2005, dated January 20, 2004, which indicates the degree of relevance found by the Japanese Patent Office.

JP 6-93114 A

This reference shows examples of sulfonated polyetherketones obtained by direct sulfonation of their aromatic ring. These sulfonated resins are different from the present polymer having sulfoalkyl group in the point having no alkyl side chain.

These sulfonated resins are obtained conveniently, but stability of the sulfonic acid groups are lacking because the precursor resins are sulfonated directly.

JP 9-245818 A

This reference shows examples of sulfonated polyetherketones obtained by direct sulfonation of their aromatic ring. These sulfonated resins are different from the present polymer having sulfoalkyl group in the point having no alkyl side chain.

These sulfonated resins are obtained conveniently, but stability of the sulfonic acid groups are lacking because the precursor resins are sulfonated directly.

JP 11-116679 A

This reference shows examples of sulfonated polyetherketones obtained by direct sulfonation of their aromatic ring. These sulfonated resins are different from the present polymer having sulfoalkyl group in the point having no alkyl side chain.

These sulfonated resins are obtained conveniently, but stability of the sulfonic acid groups are lacking because the precursor resins are sulfonated directly.

JP 2002-110174 A

This reference shows examples of hydrocarbon type polymers in which sulfoalkyl groups are introduced. This sulfoalkylation method is different from the method according to the present invention of converting a leaving group of alkyl side chain having a leaving group into an acylthio group (acylthiolating), and then oxidizing the acylthio group.

Examples of sulfoalkylation with sultone and sulfomethylation with sodium sulfate are presented in the Examples of the specification. However, each reaction of them proceeds so slowly that enough amount of sulfoalkyl groups are not able to be introduced into the polymer matrix.

Makromol. Chem., Rapid Commun., 1, 1980, 297-302

This article shows examples of hydrocarbon type polymers in which sulfoalkyl groups are introduced. Sulfonation methods such as sulfonating of chloroalkyl groups by producing thiocarbamide salts and then oxidizing them are presented.

These methods are different from the method according to the present invention of acylthiolating and oxidazing. In the article, it was scarcely able to prove that the expected product was obtained because identifying of the product by any processes is not enough and its properties are different from each other.

Makromol. Chem., 184, 1983, 1585-1596

This article shows examples of hydrocarbon type polymers in which sulfoalkyl groups are introduced. Methods of introducing sulfoalkyl group by Friedel-Crafts reaction, sulfonation and reduction are described.

These methods are different from the method according to the present invention of acylthiolating and oxidazing. In the article, it was scarcely abele to prove that the expected product was obtained because identifying of the product by any processes is not enough and their ion-exchange capacities don't satisfy the desired value.

J. Appl. Polym. Sci., 40, 1990, 709-717

This article relates to surface-modified hollow fibers, and polysulfone fibers having sulfopropyl group modified with propane sultone are described.

These methods of the article are different from the method according to the present invention of acylthiolating and oxidazing. The polysulfone fibers don't have enough ion-exchange ability because they were surface-modified and the sulfopropyl groups exist on the surface only.

Copies of the non U.S. Patents listed on the attached form are enclosed herewith.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on **July 14, 2005**

Signature: **Kevin S. Lemack**
Date: **July 14, 2005**

Respectfully submitted,

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FORM PTO-1449 LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 576P062	SERIAL NO. 10/530,981
	Masahiro Hamada et al.	
	FILING DATE April 11, 2005	GROUP Not yet assigned

REFERENCE DESIGNATION **U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	2,892,852	6/1959	Koenig	260	400	
	AB						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	TRANSLATION NO
	BA	06-093114	4/1994	Japan			*	
	BB	09-245818	9/1997	Japan			*	
	BC	11-116679	4/1999	Japan			*	
	BD	2002-110174	4/2002	Japan			*	

OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)

	CA		Makromol. Chem., Rapid Commun. 1, 297-302 (1980); Frank Doscher et al.; "Synthesis of Sulfoalkylated Styrene-Divinylbenzene-Copolymers"
	CB		Makromol.Chem. 184, 1585-1596 (1983); Herrn Prof. Dr. H.J. Cantow;
	CC		Journal of Applied Polymer Science, Vol. 40, 709-717 (1990); Akon Higuchi et al.; "Surface-Modified Polysulfone Hollow Fibers. II. Fibers Having CH2CH2Ch2SO3- Segments and Immersed in HC1 Solution"
	CD		Copy of the International Search Report dated 1/20/04.

EXAMINER	DATE CONSIDERED

EXAMINER: Initial reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance *and* not considered. Include copy of this form with next communication to applicant.